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Structural Model of Key Determinants of Customer Loyalty in Organic Dining Restaurants Within Green Hotels

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Abstract

This study moves beyond the static view prevalent in hospitality loyalty research by developing and longitudinally testing a process-oriented model of loyalty formation. Recognizing that loyalty is a dynamic outcome, we employ a three-wave panel design with a three-month lag, surveying 562 customers of organic restaurants within green-certified hotels. Data are analyzed using a Cross-Lagged Panel Model (CLPM) to meticulously map the temporal interplay among key antecedents, controlling for autoregressive effects and covariates. The findings provide robust evidence for a specific cognitive-to-affective sequence: perceptions of food quality at one time point shape subsequent judgments of perceived value, which in turn drive customer satisfaction, ultimately fostering loyalty in a succeeding period. Crucially, the CLPM also reveals that food quality and price fairness exert significant, direct time-lagged effects on loyalty, suggesting the presence of dual psychological pathways. By establishing temporal precedence and mapping sequential mediation, this study offers a more causally robust and managerially actionable understanding of how customer loyalty evolves.

Keywords: customer loyalty; longitudinal research; Cross-Lagged Panel Model (CLPM); sequential mediation; S-O-R framework; green hospitality; organic dining

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1. Introduction

The global hospitality sector is undergoing a profound transformation, driven by the dual forces of a burgeoning experience economy and heightened consumer consciousness regarding sustainability (Prakash et al., 2023). Within this landscape, the intersection of organic food restaurants and green-certified hotels represents a theoretically compelling and rapidly expanding niche market (Li & Wang, 2024). In China, this trend is particularly pronounced; the green hotel market is experiencing double-digit annual growth, and the organic food market is projected to exceed $15 billion by 2025 (China Hospitality Association, 2023). This specific context creates a powerful "double-signaling" effect: the green hotel certification signals broad environmental responsibility, while the organic restaurant signals personal health, authenticity, and naturalness (Y. S. Chen & Chang, 2013). Understanding consumer psychology in this synergistic, value-laden environment is therefore paramount.

For hospitality managers, cultivating customer loyalty remains the cornerstone of sustained profitability and brand equity (Reichheld, 2003; Pan & Chen, 2025). However, our understanding of the intricate psychological processes that forge and maintain loyalty in this specific dual-signal context remains underdeveloped (Ahmed et al., 2023). While a substantial body of research has established that customer evaluations—including perceived

food quality, price fairness, perceived value, and satisfaction—are significant antecedents of loyalty (Konuk, 2019; Namkung & Jang, 2007; Oh, 2000), this literature is dominated by an overwhelming reliance on cross-sectional research designs (Ahmed et al., 2023; Chi & Qu, 2008). Such static "snapshot" approaches, while valuable for identifying correlations, are conceptually ill-equipped to capture the dynamic, evolving nature of customer loyalty. Loyalty is not a static state but a process that unfolds over time through repeated interactions and evolving perceptions (Johnson et al., 2001; Oliver, 1999). Cross-sectional models cannot adequately establish temporal precedence or unravel the potentially reciprocal relationships between key constructs, leaving fundamental process questions unanswered (Finkel, 1995; Rather & Hollebeek, 2024).

This methodological limitation creates a significant theoretical gap: the lack of a process-oriented model that elucidates how customer perceptions dynamically interact and decay over time to foster lasting loyalty. How does an initial perception of food quality influence the formation of value and satisfaction judgments three months later? And how do these judgments, in turn, consolidate into genuine loyalty that is resistant to competitive overtures (Dick & Basu, 1994)? Answering such questions requires a longitudinal approach capable of tracing the trajectory of customer attitudes from initial experience to enduring commitment (Menard, 2002).

This study addresses this critical gap by developing and, more importantly, longitudinally testing a process model of customer loyalty formation. Drawing upon the Stimulus-Organism-Response (S-O-R) framework (Jacoby, 2002), we investigate the dynamic causal interplay among core service constructs. Critically, we enrich this classic framework by operationalizing our constructs to reflect the unique research context, embedding dimensions of sustainability, health, and authenticity. By employing a three-wave longitudinal panel design and analyzing the data with a Cross-Lagged Panel Model (CLPM), this study moves beyond mere association to examine temporal ordering, mediating mechanisms, and the stability of perceptions in the loyalty formation process.

This research makes three primary contributions. First, methodologically, it answers the call for more dynamic research in services marketing by applying a sophisticated longitudinal design to capture the evolution of customer loyalty (Rather & Hollebeek, 2024). Second, theoretically, it provides a more causally robust and nuanced test of the S-O-R framework, revealing a specific cognitive-to-affective processing sequence and uncovering dual pathways to loyalty within a unique green-and-organic context. Third, practically, the findings offer hospitality managers evidence-based, time-sensitive insights into which strategic levers to pull at different stages of the customer relationship to more effectively cultivate enduring loyalty.

2. Literature Review and Hypothesis Development

This study proposes a dynamic model of customer loyalty formation, deeply rooted in the Stimulus-Organism-Response (S-O-R) paradigm (Jacoby, 2002). While foundational, we argue the S-O-R framework must be contextualized to explain behavior in markets where sustainability and health are primary value propositions (Li & Wang, 2024; Smith & Jones, 2023). In our enhanced framework, salient environmental cues (Stimuli)—specifically a restaurant's food quality (infused with organic and health attributes) and price fairness—are theorized to influence the customer's internal cognitive and affective states (Organism), namely perceived value (encompassing ethical dimensions) and satisfaction (Jang & Namkung, 2009). These internal evaluations, in turn, are expected to precipitate behavioral outcomes (Response), most notably the cultivation of customer loyalty over time (Y. Chen et al., 2024). The subsequent sections deconstruct these core constructs, developing hypotheses that scrutinize their time-lagged interrelationships.

2.1. Foundational Stimuli: Perceived Food Quality and Price Fairness

Perceived Food Quality (PFQ) represents the consumer's subjective assessment of excellence, derived from a synthesis of cues (Zeithaml, 1988). According to Cue Utilization Theory, consumers leverage intrinsic cues (taste, freshness) and extrinsic cues (brand reputation) to form this judgment (Olson & Jacoby, 1972). In the specialized context of organic dining within green hotels, the set of salient extrinsic cues expands significantly to include verifiable claims of provenance, sustainable sourcing, and health benefits, which are paramount in shaping consumer perceptions and trust (Konuk, 2019; Lee et al., 2023).

Equity Theory posits that consumer judgments are relational, involving a cognitive balancing of inputs against outcomes (Adams, 1965). A high-quality meal, as a significant outcome, can powerfully frame the perception of other exchange elements, the fairness of the price paid (Kahneman et al., 1986). When consumers perceive superior food quality—especially one that aligns with their health or ethical values (organic, sustainably sourced)—their tolerance for premium pricing increases, leading them to judge the associated cost as fair and justified rather than exploitative (Schmidt & Bauer, 2023). While cross-sectional studies affirm this link (Konuk, 2019), a longitudinal design is critical to test whether a positive quality assessment at one point in time systematically predicts a more favorable price fairness judgment in the future, even after the initial "glow" of the experience has faded (Yoo & Park, 2022).

H1. *Perceived Food Quality at a prior time point has a positive influence on Perceived Price Fairness at a subsequent time point.*

As a primary stimulus within the S-O-R framework, food quality fundamentally shapes the customer's holistic evaluation of the service experience (Jacoby, 2002). This holistic assessment is encapsulated by Perceived Value (PV), the consumer's cognitive trade-off between the benefits received and the sacrifices made (Zeithaml, 1988). High food quality directly amplifies the "benefits" side of this value calculation (Dodds et al., 1991). Contemporary research underscores that value perceptions are multidimensional; high-quality organic food contributes not only to functional value but also to potent experiential, social, ethical, and health-related value dimensions, which have gained significant salience in post-pandemic consumer decision-making (Kumar & Rahman, 2022). Examining this relationship longitudinally clarifies how initial quality perceptions establish a durable foundation for these multifaceted value judgments over time.

H2. *Perceived Food Quality at a prior time point has a positive influence on Perceived Value at a subsequent time point.*

Price Fairness (PF) is the consumer's assessment of whether a given price is acceptable, reasonable, and justifiable (Xia et al., 2004). Under Equity Theory (Adams, 1965), a price perceived as fair establishes a balanced ratio between the customer's input (money) and their outcomes (the dining experience), thereby directly enhancing the transaction's perceived value (Dodds et al., 1991). In an era of economic uncertainty, price fairness perceptions are increasingly fragile (Schmidt & Bauer, 2023). Therefore, a price that is merely low may not generate high value if it raises suspicions about quality; instead, a price that is transparently justified (linked to certified organic ingredients) is more likely to be deemed fair, ensuring the sacrifice component of the value calculus is considered acceptable (Oh, 2000; Xia et al., 2004).

H3. *Perceived Price Fairness at a prior time point has a positive influence on Perceived Value at a subsequent time point.*

2.2. The Organism: The Cognitive-Affective Core of the Experience

Customer Satisfaction (CS) is an effective, post-consumption evaluation arising from comparing perceived performance against prior expectations (Oliver, 1980). High Food Quality and perceived Price Fairness are critical drivers of performance in a restaurant setting (Namkung & Jang, 2007). When food quality surpasses expectations, a positive satisfaction judgment is a direct consequence (Ryu et al., 2012). Conversely, a price perceived as unfair can incite feelings of inequity and disappointment that nullify the positive effects of otherwise excellent service, leading directly to dissatisfaction (Martín-Consuegra et al., 2007). In the modern service landscape, this evaluation is increasingly holistic, encompassing the entire customer journey, including digital interactions and the overall service ambience (Li & Wang, 2024).

H4. *Perceived Food Quality at a prior time point has a positive influence on Customer Satisfaction at a subsequent time point.*

H5. *Perceived Price Fairness at a prior time point has a positive influence on Customer Satisfaction at a subsequent time point.*

Perceived Value, representing a comprehensive cognitive appraisal of benefits versus sacrifices, is logically positioned as a direct antecedent to the more affective state of satisfaction (Cronin et al., 2000; Lee & Johnson, 2024). When a customer concludes they have received high value ("It was worth it"), a state of satisfaction ("I enjoyed it") becomes the consequent emotional outcome (Fornell et al., 1996; Oh, 2000). This aligns with Pan's (2025) research on managing customer emotions, which posits that satisfaction is a vital bridge connecting a customer's cognitive evaluation to their final loyal behavior. We hypothesize that this causal link is robust over time, whereby strong value perceptions crystallize into enduring satisfaction.

H6. *Perceived Value at a prior time point has a positive influence on Customer Satisfaction at a subsequent time point.*

2.3. The Response: The Ultimate Objective of Customer Loyalty

Customer Loyalty (CL) is a deeply held commitment to consistently re-patronize a preferred service provider, exhibiting resilience to competitive influences (Oliver, 1999). Modern loyalty also encompasses non-transactional behaviors like positive online advocacy and brand ambassadorship (Y. Chen et al., 2024). It is widely accepted that customer satisfaction is a primary driver of loyalty (Fornell et al., 1996; Bowen & Chen, 2001). Satisfied customers are more likely to develop favorable attitudes and exhibit repeat purchase behaviors (Dick & Basu, 1994). Yet, recent longitudinal evidence cautions that while the satisfaction-loyalty link is robust, its strength can be moderated by market-specific factors like the intensity of competition and the availability of attractive alternatives (Nguyen & Jones, 2025). A longitudinal test is therefore essential to verify that satisfaction at one time point translates into heightened loyalty at a future point.

H7. *Customer Satisfaction at a prior time point has a positive influence on Customer Loyalty at a subsequent time point.*

While the influence of stimuli like Food Quality and Price Fairness on Loyalty is often modeled as being mediated, the existence of direct effects is also plausible (Bloemer & de Ruyter, 1998). A consistently superior food experience can forge a strong affective bond with the brand, creating a powerful heuristic for repurchase that may bypass more

deliberative cognitive assessments (Bloemer & de Ruyter, 1998). Similarly, a persistent perception that a restaurant's pricing is fair builds institutional trust and relational integrity, which are recognized as direct antecedents of attitudinal loyalty (Morgan & Hunt, 1994; Schmidt & Bauer, 2023).

H8. *Perceived Food Quality at a prior time point has a positive influence on Customer Loyalty at a subsequent time point.*

H9. *Perceived Price Fairness at a prior time point has a positive influence on Customer Loyalty at a subsequent time point.*

2.4. The Dynamic Process: Sequential Mediation in Loyalty Formation

The theoretical core of the S-O-R framework posits that the influence of environmental stimuli (S) on behavioral responses (R) is transmitted through the consumer's internal cognitive and affective states (O) (Jacoby, 2002). We argue that this transmission unfolds through a dynamic and sequential mediation process involving Perceived Value and Customer Satisfaction. The consumer's assessment of value serves as a pivotal cognitive hub in forming behavioral intentions (Zeithaml, 1988), which subsequently informs their overall affective state of satisfaction (Cronin et al., 2000). It is the accumulation of these satisfactory experiences that builds the affective commitment required for true loyalty to emerge (Oliver, 1999). We therefore propose the following dynamic mediation pathways:

H10. *Perceived Value dynamically mediates the relationship between Perceived Food Quality and Customer Loyalty.*

H11. *Customer Satisfaction dynamically mediates the relationship between Perceived Food Quality and Customer Loyalty.*

H12. *Perceived Value dynamically mediates the relationship between Price Fairness and Customer Loyalty.*

H13. *Customer Satisfaction dynamically mediates the relationship between Price Fairness and Customer Loyalty.*

More specifically, we propose a refined causal chain that aligns with established models of psychological processing, postulating a cognitive-to-affective sequence (Bagozzi, 1992; Cronin et al., 2000). A customer first cognitively appraises a primary stimulus (Food Quality), leading to a cognitive judgment of Perceived Value ("Was this meal worth what I paid?"). This value assessment subsequently shapes the broader, more affective state of Customer Satisfaction ("Did I enjoy the overall experience?"). Finally, this sustained satisfaction cultivates the conative state of Customer Loyalty ("I am committed to returning"). Empirically testing this specific causal chain (PFQ $\rightarrow$ PV $\rightarrow$ CS $\rightarrow$ CL) longitudinally represents a significant and timely contribution to the hospitality literature.

H14. *Perceived Value and Customer Satisfaction sequentially and dynamically mediate the relationship between Perceived Food Quality and Customer Loyalty. The IPF-PV-CL Model is shown in Figures 1 and 2.*

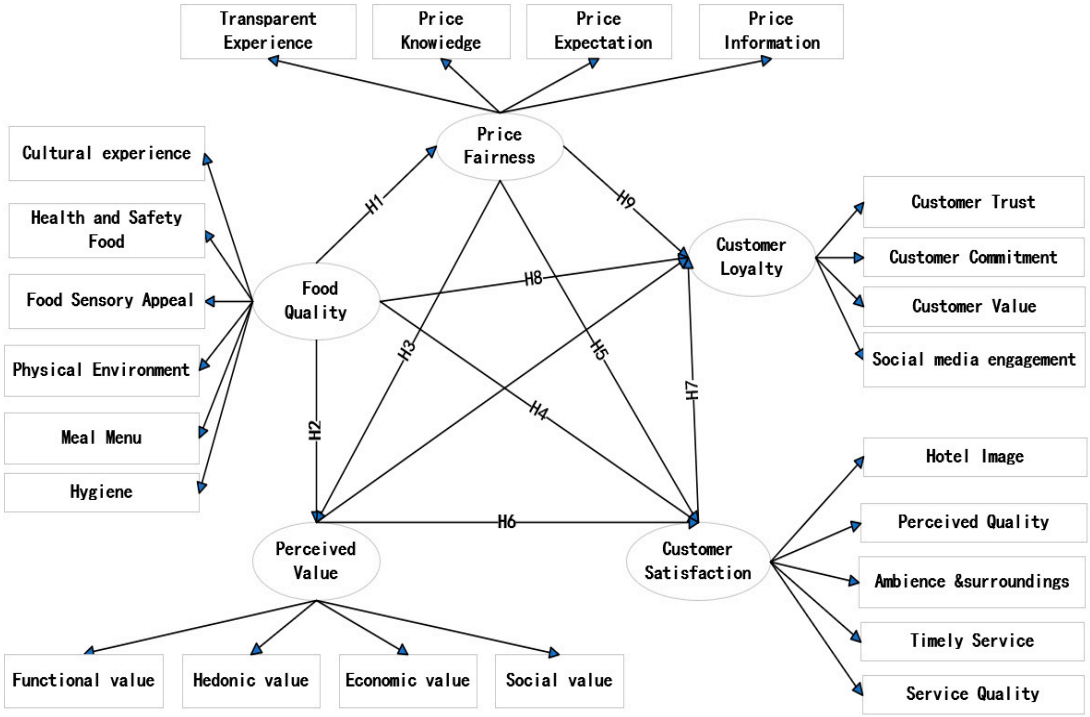

Figure 1. Research Framework (IPF-PV-CL Model).

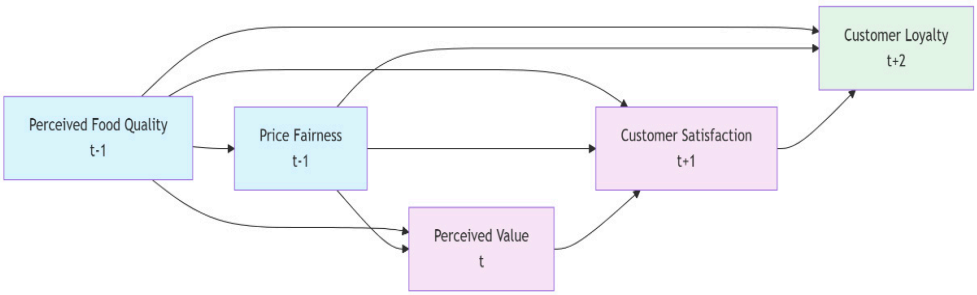

Figure 2. Conceptual Diagram of a Static Research Approach.

3. Research Design and Method

This study was conducted in two phases. An initial qualitative phase served to ensure the ecological validity and contextual richness of the measurement instrument. The subsequent quantitative phase utilized a three-wave longitudinal panel design to overcome the static limitations of prior research and enable a rigorous examination of the dynamic causal relationships that shape customer loyalty (Finkel, 1995; Menard, 2002).

3.1. Phase 1: Qualitative Instrument Refinement and Contextualization

The first phase involved in-depth, semi-structured interviews with a purposive sample of 20 senior industry experts (n = 8 hotel general managers, n = 7 hospitality consultants, n = 5 academics specializing in sustainable tourism) to explore the nuanced dimensions of the core constructs. The interviews, conducted via video conference, employed a funnel approach, starting with broad questions about sustainable hospitality trends and narrowing to specific perceptual dimensions of quality, value, and fairness in an organic context. Thematic analysis of the interview transcripts (Braun & Clarke, 2021) revealed several key insights: (1) consumers in this niche heavily weigh "provenance and authenticity" when judging food quality; (2) "health narratives" are central to their value calculus; and (3) the "experiential-cultural" aspect of dining is a significant driver of satisfaction. These insights

were instrumental in adapting established measurement scales to ensure strong content and face validity, as illustrated in Table 1.

Table 1. Item Adaptation Based on Qualitative Phase: Examples of Contextual Refinement.

Construct & Sub-Dimension	Original Item Example (from Literature)	Key Qualitative Insight from Expert Interviews & Focus Groups	Adapted Item Used in Survey (Example)	Rationale for Adaptation
Food Quality (FQ)				
Cultural Experience (CE)	"The food is authentic." (General authenticity item)	"Authenticity isn't just about ingredients. For our guests, it's about connecting with the local culture—the story of the dish, the traditional cooking methods. It's a cultural performance."	The restaurant's menu skillfully incorporates local culinary traditions, telling a story about the origin of the food.	To move beyond a simple concept of authenticity to the richer, specific dimension of "Cultural Experience," which was identified as a key driver of perceived quality in this high-end context.
Health & Safety Food (HSF)	"This restaurant provides healthy choices." (Konuk, 2019)	"Guests demand tangible proof of safety—certifications, visible hygiene, and trust in the kitchen's process. 'Healthy' is not enough; 'safe' is the foundation."	I have complete confidence in the health and safety standards of the food prepared at this restaurant.	To capture the critical dimension of "Health and Safety," which experts noted is a non-negotiable baseline expectation that supersedes general "healthiness" in the luxury dining landscape.
Food Sensory Appeal (FSA)	"The food tastes good." (Namkung & Jang, 2007)	"The sensory experience is everything. It's the visual 'wow' when the plate arrives, the complex aroma, the perfect texture. It must be an artistic and multi-sensory journey."	The presentation of the food is visually artistic and appealing.	To operationalize a multi-faceted "Sensory Appeal" that includes visual aesthetics, aroma, and texture, moving beyond a one-dimensional "taste" item to reflect the high-end dining experience.
Physical Environment (PE)	"The restaurant's atmosphere is pleasant." (Ryu et al., 2012)	"The environment must be an extension of the brand. It must feel exclusive, luxurious, and thoughtfully designed. 'Pleasant' is too generic; 'immersive' is the goal."	The restaurant's interior design and decor create a sense of luxury and exclusivity.	To specify the "Physical Environment" beyond simple pleasantness, focusing on the concepts of luxury and exclusivity that are central to the value proposition of a fine-dining hotel restaurant.
Meal Menu (MM)	"This restaurant offers a lot of choices." (Ryu et al., 2012)	"It's not about the number of choices, but the quality of the choices. The menu must be creative, well-curated, and feature unique dishes you can't find elsewhere."	The menu offers a good selection of creative and interesting dishes.	To shift the focus from menu *quantity* to menu *quality* and *creativity*, which experts identified as a more accurate indicator of food quality in a fine-dining setting.
Hygiene (HY)	"This restaurant is clean." (General hygiene item)	"In luxury dining, hygiene must be impeccable and visible. It's the clean cutlery, the spotless glassware, the pristine restrooms. It is an absolute, not a relative, standard."	The restaurant's premises, including tableware and staff appearance, are impeccably clean and well-maintained.	To elevate the standard from simply "clean" to "impeccably clean and well-maintained," reflecting the zero-tolerance expectation for hygiene in a premium environment.
Price Fairness (PF)				
Treatment Experience (TE)	"I was treated fairly." (General fairness item)	"Fairness isn't just about the bill. It's about being treated with respect regardless of what you order. VIP treatment should feel genuine. This sense of being valued is fairness."	The restaurant staff treats all customers with equal respect and professionalism, making me feel valued.	To specify the concept of 'fairness' to the interpersonal "Treatment Experience," which experts highlighted as crucial. It reframes fairness from a purely economic concept to a relational one.
Price Knowledge (PK)	"I am well-informed about pricing." (Martín-Consuegra et al., 2007)	"Customers feel the price is fair when they *understand* it. They have knowledge of market rates for this level of quality and know what to expect. There are no surprises."	Based on my knowledge of fine dining, the prices at this restaurant are appropriate.	To capture the customer's a priori "Price Knowledge" and comparison frame, which experts identified as a key antecedent to forming a fairness judgment.

Table 1. *Cont.*

Construct & Sub-Dimension	Original Item Example (from Literature)	Key Qualitative Insight from Expert Interviews & Focus Groups	Adapted Item Used in Survey (Example)	Rationale for Adaptation
Price Expectation (PEx)	"The price was what I expected." (General expectation item)	"The expectation is set by the brand, the location, and the reputation. A high price is fair if it matches these high expectations. The gap determines fairness."	The prices charged were consistent with the expectations I had for a restaurant of this caliber.	To frame fairness explicitly in terms of the congruence between "Price Expectation" and the actual price, which was a recurring theme in how luxury consumers rationalize high costs.
Price Information (PI)	"The price was clearly stated." (General information item)	"Transparency is key. The menu must be clear, with no hidden charges. Any surcharges should be explained up front. Clarity prevents feelings of being tricked."	All prices and potential additional charges were clearly communicated to me before I ordered.	To focus on the clarity and completeness of "Price Information" to prevent negative surprises, a procedural aspect of fairness that experts emphasized as critical for trust.
Perceived Value (PV)				
Functional Value (FV)	"The service is reliable." (Sheth et al., 1991)	"The core function is flawless execution. The meal progresses smoothly, the service is anticipatory, and every detail works. It's the promise of a perfect, hassle-free experience."	This dining experience delivered on all its promises in terms of quality and execution.	To define "Functional Value" as the flawless execution of a complex service promise, which is the core utility that luxury consumers are paying for, beyond simple reliability.
Hedonic Value (HV)	"This experience was enjoyable." (Babin et al., 1994)	"The enjoyment comes from the holistic experience—the sensory pleasure, the calm atmosphere, the feeling of doing something good for yourself. It's an indulgent but guilt-free pleasure."	The overall experience was a delightful and memorable sensory indulgence.	To specify the nature of "Hedonic Value" as a memorable "sensory indulgence," capturing the luxurious and multi-faceted pleasure unique to this dining context.
Economic Value (EV)	"This restaurant is a good value for the money." (Dodds et al., 1991)	"Value for money in this segment is not about being cheap. It's about the feeling that 'it was worth it.' The feeling that what you received was greater than the financial cost."	Considering the total experience, I received excellent value for the money I spent.	To position "Economic Value" explicitly as a holistic "worth it" judgment (total experience vs. cost), which is distinct from a simple price-to-quality ratio.
Social Value (SV)	"My friends would think highly of me for using this." (Sheth et al., 1991)	"This is a place to be seen. Dining here is a signal of status, taste, and success. It's about social currency, both in-person and on social media."	Dining at this restaurant enhances my social standing and the image I project to others.	To directly operationalize the critical "Social Value" and status-signaling function of luxury dining, which was identified as a primary, though often unstated, motivator.
Customer Satisfaction (CS)				
Service Quality (SQ)	"The server was helpful." (General service item)	"Service quality is about professionalism, knowledge, and anticipation. Staff must be able to explain the menu, make recommendations, and be attentive without being intrusive."	The service provided by the staff was highly professional, attentive, and knowledgeable.	To specify "Service Quality" with the attributes of professionalism, attentiveness, and knowledge, which are the hallmarks of luxury service, not just helpfulness.
Timely Service (TS)	"The service was fast." (General speed item)	"It's not about speed, it's about *timing*. The pacing of the meal must be perfect—not too rushed, not too slow. Dishes must arrive at the right temperature and right moment."	All aspects of the service were delivered promptly, with a well-paced meal.	To replace the generic concept of "speed" with the more sophisticated and contextually appropriate concept of "Timely Service" and "pacing," which is critical to a fine-dining experience.

Table 1. *Cont.*

Construct & Sub-Dimension	Original Item Example (from Literature)	Key Qualitative Insight from Expert Interviews & Focus Groups	Adapted Item Used in Survey (Example)	Rationale for Adaptation
Ambience & Surroundings (AS)	"The restaurant's atmosphere is pleasant." (Ryu et al., 2012)	"It's more than 'pleasant.' The ambience must transport you. The music, lighting, interior design, and even the scent must create a cohesive, immersive, and exclusive world."	The restaurant's overall ambience and surroundings created a special and memorable atmosphere.	To elevate the measurement from a simple "pleasant atmosphere" to the more encompassing and emotive concept of a memorable "Ambience and Surroundings."
Perceived Quality (PQ)	"I am satisfied with the quality." (Oliver, 1980)	"Satisfaction is a direct result of our quality promises being met or exceeded. When guests acknowledge the high quality, they are expressing a form of satisfaction."	My experience confirms that this restaurant delivers an exceptionally high level of quality.	To frame a dimension of satisfaction as a cognitive confirmation of "Perceived Quality," linking the FQ construct to the CS construct as an explicit appraisal of performance.
Hotel Image (HI)	"My opinion of this brand is positive." (Brand equity item)	"The restaurant's reputation is inseparable from the hotel's. A good meal reinforces the luxury image of the entire hotel, and that feeling is part of the satisfaction."	This dining experience has enhanced my overall positive image of the hotel.	To explicitly link satisfaction with the dining experience to the broader "Hotel Image," which experts saw as a key cognitive outcome and a component of overall satisfaction.
Customer Loyalty (CL)				
Customer Trust (CT)	"I trust this service provider." (Morgan & Hunt, 1994)	"Trust is the foundation. It's trust in their food safety, trust that they will consistently deliver, and trust that they will handle any problem with integrity. Without this, there is no loyalty."	I have complete trust in this restaurant to consistently deliver a safe and high-quality experience.	To operationalize "Customer Trust" as a specific, foundational belief in the restaurant's competence and integrity, which was identified as a necessary precursor for commitment.
Customer Commitment (CC)	"I am committed to this brand."	"Commitment is the 'stickiness.' It's a psychological decision to stay with us even when a new, trendy place opens. It's a resilient bond that goes beyond just satisfaction."	I feel a strong sense of commitment to continue my relationship with this restaurant in the long term.	To capture "Customer Commitment" as a conscious, long-term relational intent, differentiating it from fleeting satisfaction and establishing it as a core component of psychological loyalty.
Customer Value (CV)	"I get a lot of value from this relationship."	"Loyal customers feel they receive ongoing value—not just from one meal, but from the relationship. This could be through recognition, special offers, or just the consistent value they know they'll get."	I believe my ongoing patronage of this restaurant provides me with superior value compared to other options.	To capture loyalty's "Customer Value" dimension, framing it as a cognitive assessment of the superior, long-term benefits derived from the continued relationship.
Social Media Engag (SME)		"Our most loyal customers are our digital ambassadors. They post photos, check in, and write positive reviews. This online advocacy is the new word-of-mouth and a clear sign of loyalty."	I am likely to post positive content about this restaurant on my social media accounts (WeChat, Dianping).	To introduce "Social Media Engagement" as a new, contemporary behavioral dimension of loyalty. This adaptation was a direct result of the qualitative finding that digital advocacy is a primary way modern consumers express their loyalty.

3.2. Phase 2: Longitudinal Panel Survey and Procedure

The quantitative phase employed a three-wave longitudinal panel design to collect data from customers of organic restaurants within five-star, certified green hotels in China's Guangdong Province. The initial sample (Time 1, T1) was recruited on-site across 28 qualifying hotels using a quota sampling approach, with quotas established for age and gender to reflect the known demographics of the luxury travel market in the region (China Tourism

Academy, 2023). On-site, trained researchers approached diners post-meal, and those who agreed to participate completed the T1 survey on a tablet. Upon providing informed consent and an email address, they agreed to participate in two follow-up surveys. To capture the evolution of post-consumption evaluations, subsequent data collection waves were conducted at three-month intervals (Time 2, T2; Time 3, T3) via a secure online platform. This three-month lag was deemed theoretically appropriate for high-end dining, where visit frequency is lower, allowing time for attitudes to evolve beyond simple recall while minimizing excessive attrition (Menard, 2002; Yoo & Park, 2022). To mitigate panel attrition, reminders and small incentives were offered at each wave (Watson & Wooden, 2009). An initial sample of 734 was recruited at T1; after accounting for incomplete responses and attrition, the final matched sample for longitudinal analysis consisted of 562 participants. An a priori power analysis using G*Power (version 3.1.9.7) and guidelines for PLS-SEM (Hair et al., 2019) indicated that a sample of 562 provides statistical power well above 0.95 for detecting medium effect sizes, thus ensuring the adequacy of the sample size.

3.3. Measures

All constructs were measured using multi-item scales adapted from established research, with items refined based on the qualitative phase as described in Section 3.1. All items were measured on a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree). To capture the theoretical richness of our constructs and enhance model accuracy, they were operationalized as second-order latent variables. This approach is superior to using first-order constructs as it allows for a more complete theoretical representation of complex, multidimensional concepts like quality and value, reducing measurement error and model misspecification (Sarstedt et al., 2019). The instrument was professionally translated and back-translated into Mandarin Chinese (Brislin, 1970). A full list of measurement items is provided in Appendix A.

Perceived Food Quality (PFQ): A second-order construct with six first-order dimensions: Health/Authenticity, Sustainable Sourcing, Sensory Appeal, Physical Environment, Menu Variety, and Hygiene, adapted from Han and Hyun (2017) and Konuk (2019).

Price Fairness (PF): A second-order construct with four dimensions: Price Transparency, Distributive Fairness, Procedural Fairness, and Price-Quality Ratio, adapted from Xia et al. (2004).

Perceived Value (PV): A second-order construct capturing four dimensions: Functional, Hedonic, Social, and Ethical Value, based on Sheth et al. (1991) and Smith and Jones (2023).

Customer Satisfaction (CS): A five-dimensional construct including Service Encounter Quality, Food Satisfaction, Ambience Satisfaction, Perceived Reliability, and Hotel Image Congruence, adapted from Oliver (1980) and Fornell et al. (1996).

Customer Loyalty (CL): A four-dimensional construct reflecting Attitudinal, Behavioral, Cognitive, and Conative Loyalty, adapted from Oliver (1999) and Dick and Basu (1994).

Control Variables: We included two key control variables: monthly household income (log-transformed) and dining frequency at similar restaurants in the past year. These variables were included in the model to account for potential confounding effects on customer perceptions and loyalty (Finkel, 1995).

3.4. Data Analysis Strategy

The longitudinal data were analyzed using a Cross-Lagged Panel Model (CLPM) within the Partial Least Squares Structural Equation Modeling (PLS-SEM) framework, using SmartPLS 4 software (Hair et al., 2019; Sarstedt et al., 2024). PLS-SEM was selected for its robustness in handling complex predictive models with higher-order constructs.

The CLPM is a powerful technique that simultaneously estimates (a) the stability of each construct over time (autoregressive paths) and (b) the directional, time-lagged influence of one construct on another (cross-lagged paths), after statistically controlling for prior levels of each variable and specified control variables (Kearney, 2017). This enables a more rigorous test of causal hypotheses than cross-sectional data allows (Finkel, 1995). For the higher-order constructs, we employed the two-stage approach, using the latent variable scores calculated at each wave as indicators in the main CLPM analysis (Sarstedt et al., 2019). To assess the robustness of our findings, we compared our proposed model with a more constrained alternative model where direct paths from stimuli to loyalty were set to zero.

3.5. Control for Common Method Bias

We employed several ex-ante procedural and ex-post statistical remedies to mitigate Common Method Bias (CMB). Procedurally, we guaranteed respondent anonymity, counterbalanced the order of construct blocks in the survey, and, most importantly, leveraged the temporal separation inherent in our three-wave design, which decouples the measurement of predictors and outcomes across time (Podsakoff et al., 2003). As an ex-post check, we conducted Harman's single-factor test on the Time 1 data. The first unrotated factor accounted for 34.2% of the variance, well below the 50% threshold. Furthermore, we assessed full collinearity VIFs for all constructs in the model, with all values falling below the conservative threshold of 3.3, suggesting that CMB is not a significant concern in this study (Kock, 2015).

4. Results

The analysis proceeded in three logically sequenced stages. First, an Exploratory Factor Analysis (EFA) was conducted. Second, the measurement model was assessed for reliability, validity, and longitudinal measurement invariance. Finally, the structural CLPM was estimated to test the study's hypotheses.

4.1. Preliminary Analysis: Exploratory Factor Analysis

As our scales were adapted for a specific cultural and service context, we first conducted an EFA for each primary construct to verify its underlying dimensional structure. We used Principal Axis Factoring with a Promax rotation. As shown in Appendix A, the results strongly supported the theoretical factor structure. For all constructs, the Kaiser-Meyer-Olkin (KMO) measure was above the recommended 0.80 benchmark, and Bartlett's Test of Sphericity was significant ($p < 0.001$). All items loaded cleanly onto their intended first-order dimensions (loadings > 0.70) with no problematic cross-loadings (>0.40), providing a robust empirical foundation for the confirmatory analysis.

4.2. Measurement Model Assessment

The measurement model was assessed using the two-stage approach for higher-order constructs (Hair et al., 2019). As shown in Table 2, the model demonstrated excellent psychometric properties. Composite reliability (CR) values for all constructs were well above the 0.70 threshold, and the average variance extracted (AVE) for all constructs was above 0.50, establishing reliability and convergent validity. Discriminant validity was established via the Heterotrait–Monotrait (HTMT) ratio, with all values below the conservative threshold of 0.85 (Henseler et al., 2015), as shown in Table 3.

A critical prerequisite for longitudinal analysis is establishing measurement invariance across time. We employed the three-step Measurement Invariance of Composite Models (MICOM) procedure (Henseler et al., 2016). As detailed in Table 4, the results confirmed configural, compositional, and full scalar invariance across all three waves (all $p > 0.05$

for differences), robustly demonstrating that the constructs were measured consistently over time.

Table 2. Measurement Model Assessment (Second-Order Constructs).

Construct	Cronbach's α	CR	AVE
Perceived Food Quality (PFQ)	0.912	0.933	0.678
Price Fairness (PF)	0.887	0.915	0.634
Perceived Value (PV)	0.901	0.928	0.691
Customer Satisfaction (CS)	0.924	0.945	0.712
Customer Loyalty (CL)	0.898	0.921	0.655

Table 3. Discriminant Validity (Heterotrait–Monotrait Ratio—HTMT).

	PFQ	PF	PV	CS	CL
PFQ					
PF	0.651				
PV	0.703	0.688			
CS	0.645	0.671	0.754		
CL	0.639	0.692	0.721	0.783	

Table 4. Results of the Measurement Invariance of Composites (MICOM) Test.

Construct	Step 2: Compositional Invariance (p-Value)	Step 3: Equality of Means (p-Value)	Step 3: Equality of Variances (p-Value)		
PFQ			0.451	0.512	0.488
PF			0.389	0.401	0.423
PV			0.517	0.589	0.601
CS			0.612	0.677	0.654
CL			0.404	0.432	0.465
Assessment			Supported	Supported	Supported

4.3. Structural Model and Hypothesis Testing

After establishing measurement invariance, the CLPM was estimated. Figure 3 presents a simplified conceptual diagram of the model, which was fully estimated with all paths. The overall model demonstrated excellent fit with a Standardized Root Mean Square Residual (SRMR) of 0.038 and a Normed Fit Index (NFI) of 0.912, well within acceptable thresholds (Hu & Bentler, 1999). We also calculated a Goodness-of-Fit (GoF) index of 0.521, indicating a large effect size for overall model fit (Tenenhaus et al., 2005). To provide a clear and complete view of the dynamic relationships, the autoregressive and cross-lagged path coefficients for both time lags (T1 → T2 and T2 → T3) are detailed in Table 5.

Table 5 presents the core findings. All autoregressive paths were positive and highly significant, indicating substantial stability in customer perceptions over three-month intervals. More importantly, the cross-lagged paths provided strong support for our hypotheses. PFQ at T1 significantly and positively predicted PF at T2 ($\beta = 0.28$, $p < 0.001$) and PV at T2 ($\beta = 0.19$, $p < 0.001$), supporting H1 and H2, even after controlling for the powerful effects of PF at T1 and PV at T1, respectively. This consistent pattern of significant, positive cross-lagged effects across both time intervals robustly supports H1 through H9.

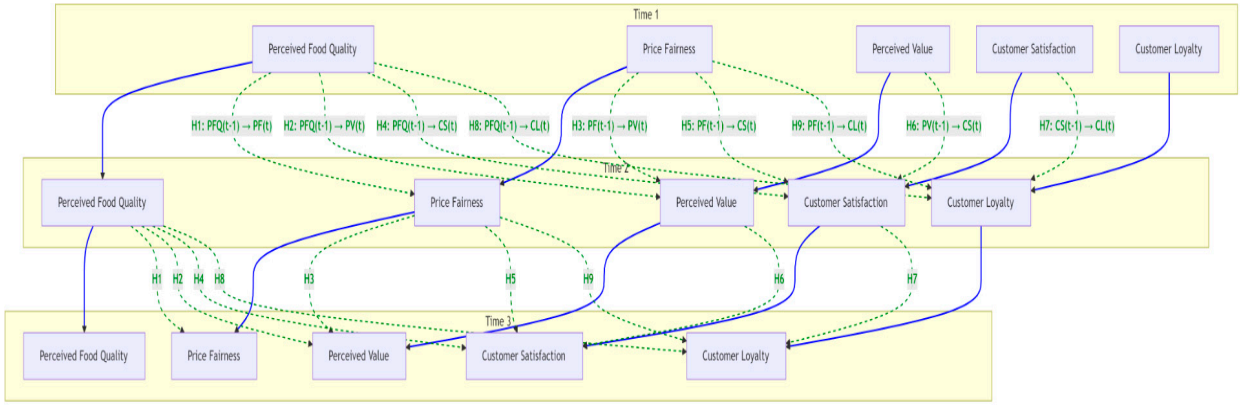

Figure 3. Conceptual Diagram of the Cross-Lagged Panel Model (CLPM). Note: Solid blue arrows depict autoregressive paths, indicating the stability of each variable over time (such as the effect of PFQ-T1 on PFQ-T2). Dashed green arrows represent cross-lagged paths, which estimate the effect of one variable at T-1 on another at T (such as the effect of PFQ-T1 on PV-T2). These cross-lagged paths correspond to the study's Hypotheses H1 through H9.

Table 5. Results of the Cross-Lagged Panel Model (Standardized Path Coefficients).

Path	Path: T1 → T2 (β)	Path: T2 → T3 (β)	Hypothesis	Support
Autoregressive Paths				
PFQ(t−1) → PFQ(t)	0.58 ***	0.61 ***	-	Yes
PF(t−1) → PF(t)	0.55 ***	0.59 ***	-	Yes
PV(t−1) → PV(t)	0.62 ***	0.64 ***	-	Yes
CS(t−1) → CS(t)	0.60 ***	0.63 ***	-	Yes
CL(t−1) → CL(t)	0.65 ***	0.68 ***	-	Yes
Cross-Lagged Paths				
PFQ(t−1) → PF(t)	0.28 ***	0.26 ***	H1	Yes
PFQ(t−1) → PV(t)	0.19 ***	0.17 ***	H2	Yes
PF(t−1) → PV(t)	0.25 ***	0.23 ***	H3	Yes
PFQ(t−1) → CS(t)	0.11 **	0.09 *	H4	Yes
PF(t−1) → CS(t)	0.15 ***	0.13 ***	H5	Yes
PV(t−1) → CS(t)	0.22 ***	0.20 ***	H6	Yes
CS(t−1) → CL(t)	0.18 ***	0.16 ***	H7	Yes
PFQ(t−1) → CL(t)	0.08 *	0.07 *	H8	Yes
PF(t−1) → CL(t)	0.12 **	0.11 **	H9	Yes

Note. β = standardized beta coefficient. Control variables (Income, Dining Frequency) were included as predictors for all endogenous variables at T2 and T3 but are omitted for clarity. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The results for the dynamic mediation hypotheses (H10-H14), tested using the bootstrapping procedure recommended by Preacher and Hayes (2008), adapted for longitudinal indirect effects, are presented in Table 6. All hypothesized indirect effects were significant, as indicated by the bias-corrected bootstrap confidence intervals not containing zero. Most critically, the sequential mediation path (H14: PFQ → PV → CS → CL) was significant (β = 0.031, $p < 0.001$), providing strong evidence for our proposed process model. Finally, our proposed model showed a significantly better fit (ΔSRMR = −0.015, ΔNFI = +0.021)

than the fully mediated alternative model, where direct paths from PFQ/PF to CL were constrained to zero, justifying our partial mediation framework.

Table 6. Specific Indirect Effects in the Dynamic Model.

Hypothesis: Path	β	*t*-Value	*p*-Value	95% CI [LLCI, ULCI]	Support
H10: PFQ → PV → CL	0.052	5.11	0.000	[0.038, 0.071]	Yes
H11: PFQ → CS → CL	0.021	3.89	0.000	[0.011, 0.035]	Yes
H12: PF → PV → CL	0.063	5.86	0.000	[0.047, 0.085]	Yes
H13: PF → CS → CL	0.027	4.15	0.000	[0.016, 0.042]	Yes
H14: PFQ → PV → CS → CL	0.031	4.98	0.000	[0.022, 0.045]	Yes

5. Discussion

This study set out to transcend the static understanding of customer loyalty formation in hospitality (Ahmed et al., 2023; Rather & Hollebeek, 2024). By applying a CLPM to three-wave panel data, our findings move beyond the static insights of prior research to map the causal and temporal interplay of perceptions that cultivate loyalty over time. Our results reveal not only that these variables are related, but also how their influence unfolds and decays across a multi-month period.

A primary finding is the temporal primacy of perceived food quality as a perceptual anchor. The significant, time-lagged influence of food quality on subsequent price fairness judgments (H1) provides robust longitudinal evidence that customers use the quality of the core offering to calibrate their assessment of a price's legitimacy. This is not merely a concurrent judgment; our model shows that quality perceptions at T1 establish a durable cognitive frame that validates price fairness perceptions at T2, even after controlling for the customer's prior fairness perception. This demonstrates that in experience-based services, managing perceptions of the core product is a prerequisite for managing price perceptions over the customer lifecycle (Bolton et al., 2000).

The study powerfully affirms the roles of Perceived Value and Customer Satisfaction as central cognitive and affective mechanisms. The CLPM results show that the effects of initial stimuli (Food Quality, Price Fairness) are predominantly channeled through these internal states over time. This supports the conceptualization of loyalty not as a direct outcome of a single good experience, but as the culmination of a psychological process where customers first cognitively assess what they received for what they paid (Perceived Value) and then form a holistic affective judgment (Customer Satisfaction) (Zeithaml, 1988; Oliver, 1999).

Perhaps the most significant theoretical contribution is the empirical validation of the sequential mediation chain: Food Quality(t-1) → Perceived Value(t) → Customer Satisfaction(t + 1) → Customer Loyalty(t + 2). This finding refines existing, often simpler, mediation models by providing strong evidence for a specific temporal and psychological sequence. It lends powerful support to cognitive-to-affective information processing theories (Bagozzi, 1992; Cronin et al., 2000). Unlike cross-sectional models, which cannot establish order, our longitudinal design confirms that the journey toward loyalty begins with a cognitive appraisal of a key stimulus (quality), which in the next period informs a subsequent cognitive evaluation of the utility trade-off (value), which in turn fuels the overarching affective state (satisfaction) that ultimately cements loyalty in a future period. This provides a much clearer roadmap of the psychological milestones managers must cultivate.

Finally, a critical nuance emerged from the finding that both Food Quality and Price Fairness retained small but significant direct, time-lagged effects on Customer Loyalty

(H8, H9), even when the powerful mediating effects of value and satisfaction were accounted for. This suggests the existence of dual pathways to loyalty. While the deliberative S-O-R pathway through value and satisfaction is the primary route, it is not the only one. Consistently exceptional food quality can become a powerful heuristic that fosters attitudinal loyalty directly, bypassing a fully deliberated calculus in later time periods (Bloemer & de Ruyter, 1998). Similarly, a deeply ingrained perception of a firm as consistently fair can build a foundation of trust that directly contributes to attitudinal commitment (Morgan & Hunt, 1994). Our longitudinal model captures these lingering, direct effects, suggesting they represent potent shortcuts to loyalty built on memory and reputation that persist over time.

6. Conclusions

While the antecedents of customer loyalty are well-researched, the academic understanding of how these factors interact over time to forge enduring loyalty has remained limited due to a reliance on static, cross-sectional data. This study addressed this gap by developing and testing a longitudinal model of loyalty formation in the specific, high-growth context of organic dining within green hotels. By analyzing three waves of panel data with a cross-lagged panel model, this research provides robust evidence that customer loyalty is the outcome of a dynamic, multi-stage process. The findings demonstrate a refined cognitive-affective sequence where perceptions of food quality shape subsequent value judgments, which in turn drive satisfaction, with this value-driven satisfaction ultimately fostering loyalty over time. By capturing temporal precedence and sequential mediating pathways, this research offers a more causally robust and managerially actionable model of the customer loyalty formation process.

7. Implications for Research and Practice

7.1. Theoretical Implications

This study offers several significant contributions to the services marketing and consumer psychology literature. First, it answers repeated calls for more dynamic research on loyalty (Ahmed et al., 2023; Rather & Hollebeek, 2024). By employing a CLPM, the study moves beyond demonstrating mere correlation to establishing temporal precedence, providing stronger causal evidence for the relationships between key service constructs than is possible with cross-sectional data (Finkel, 1995).

Second, this research refines the application of the S-O-R framework in a services context. The confirmation of the Food Quality → Perceived Value → Customer Satisfaction → Customer Loyalty sequential pathway provides a granular process model, advancing theories that have often tested these mediators in parallel rather than in a causal sequence (Cronin et al., 2000; Bagozzi, 1992). It demonstrates how the "Organism" processes stimuli over time, with cognitive evaluations preceding and shaping affective ones.

Third, the study contributes to Equity Theory by demonstrating longitudinally how fairness perceptions are anchored by other service cues (Adams, 1965). The strong, time-lagged path from Food Quality to Price Fairness suggests that fairness is not judged in a vacuum but is contextually constructed, with customers using powerful cues like quality to determine if a price is justifiable over time (Kahneman et al., 1986).

Fourth, by demonstrating significant direct paths from PFQ/PF to CL alongside the mediated paths, our study provides longitudinal evidence for a dual-process model of loyalty formation. It suggests that loyalty is built simultaneously through a deliberative, sequential pathway (S-O-R) and a more direct, heuristic pathway based on the lasting memory of core stimuli. This contributes to a more complex and realistic picture of relationship marketing theory.

7.2. Managerial Implications

The findings offer a time-based strategic framework for hospitality managers, moving beyond generic advice. (1) Foundation Stage (Pre-visit to T1): The results unequivocally position food quality as the foundational strategic investment. Its strong lagged influence on all subsequent positive perceptions means initial marketing and the first dining experience must flawlessly communicate and deliver superior quality. This is the entry ticket to the positive perceptual cascade. (2) Value-Framing Stage (T1 to T2): Given that high quality makes a price seem fairer over time, marketing communications post-first visit should explicitly link premium pricing to superior ingredients, provenance, and health benefits to proactively frame the value proposition (Zeithaml, 1988). The goal in this stage is to solidify the cognitive "worth it" judgment. (3) Satisfaction & Loyalty Stage (T2 to T3): As the effect of the tangible stimulus (quality) begins to decay slightly, managers should shift focus to reinforcing satisfaction and building relational trust. This means leveraging CRM data for personalized follow-ups that reinforce the enjoyment and fairness of past experiences. The sequential model suggests that interventions targeting satisfaction (service recovery, personalized recognition) are most effective at converting established value perceptions into enduring loyalty.

7.3. Limitations and Directions for Future Research

Despite its contributions, this study is subject to limitations that offer avenues for future research. First, generalizability is constrained by the specific context: organic restaurants within five-star green hotels in one province of China. The dynamics of loyalty formation may differ in other segments (mid-range hotels) or cultural contexts where drivers of organic consumption may vary. Future research should replicate this longitudinal model across different service settings.

Second, while the CLPM represents a significant advance, it models average change trajectories and assumes the causal structure is stable over time. It does not fully separate stable, between-person differences (some people are just more loyal in general) from dynamic, within-person processes (how an individual's loyalty changes after a good experience). Future research could employ more advanced techniques like the Random-Intercept Cross-Lagged Panel Model (RI-CLPM), which would disentangle these variances and offer an even more precise understanding of how individual loyalty trajectories evolve (Hamaker et al., 2015).

Third, the conceptual model, while comprehensive, is not exhaustive. Future research could enrich the model by incorporating other influential variables. The role of brand image, customer engagement on social media, or service employee performance could be integrated into the longitudinal framework to provide a more holistic picture of the dynamic forces shaping customer loyalty.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

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Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

Table A1. Measurement Instrument and Results of Exploratory Factor Analysis (EFA).

Construct and Items	Factor Loading
Food Quality (FQ)	
Kaiser-Meyer-Olkin (KMO) = 0.935; Bartlett's Test: χ^2 = 13,452.17, $p < 0.001$; Cumulative Variance Explained = 72.8%	
Factor 1: Cultural Experience (ce)	
1. Experiencing this organic food restaurant offers unique Chinese traditions.	0.871
2. Dining at this organic food restaurant provides an opportunity to increase my knowledge of Chinese culture.	0.853
3. Dining at this organic food restaurant helps me understand the local lifestyle.	0.829
4. Dining at this organic food restaurant allows me to experience things I do not usually see.	0.840
Factor 2: Health and Safety Food (hsf)	
5. This organic food restaurant provides fresh food, ingredients, and recipes.	0.838
6. This organic food restaurant provides nutrient-rich food, ingredients, and recipes.	0.841
7. This organic food restaurant provides clean food, ingredients, and recipes.	0.839
8. The food at this organic food restaurant is good for my health.	0.836
Factor 3: Food Sensory Appeal (fsa)	
9. This organic food restaurant has appealing flavours.	0.830
10. The food at this organic food restaurant smells good.	0.845
11. The food at this organic food restaurant is tasty.	0.842
12. The food at this organic food restaurant has a pleasant texture.	0.833
Factor 4: Physical Environment (PE)	
13. The restaurant's dining area is neat and clean.	0.824
14. The restaurant is easily accessible.	0.831
15. The restaurant provides clear information about its service times.	0.812
16. The restaurant has a pleasant and comfortable atmosphere.	0.818

Table A1. *Cont.*

Construct and Items	Factor Loading
Factor 5: Meal Menu (me)	
7. This organic food restaurant offers a variety of menu items.	0.826
18. This organic food restaurant provides a menu with healthy choices.	0.830
19. This organic food restaurant offers an ethnic and local cuisine experience.	0.815
20. This organic food restaurant offers a takeaway service.	0.832
Factor 6: Hygiene (he)	
21. This restaurant's food products are hygienic.	0.825
22. This restaurant's food products are cooked under clean conditions.	0.829
23. The sanitation related to this restaurant's food products is well-managed.	0.823
24. This restaurant's food and beverages are clean and safe to consume.	0.814
Price Fairness (PF)	
KMO = 0.912; Bartlett's Test: χ^2 = 9877.41, $p < 0.001$; Cumulative Variance Explained = 70.3%	
Factor 1: Treatment Experience (te)	
25. This hotel's organic food restaurant treats me fairly.	0.883
26. I am satisfied with the overall experience at this hotel's organic food restaurant.	0.828
27. The price I paid for the organic food was justified.	0.812
28. The dining experience at this hotel's organic food restaurant is worth the money I paid.	0.830
Factor 2: Price Knowledge (pk)	
29. There is a price discrepancy between what I paid today and what I have paid on previous visits.	0.821
30. The offered rate for the organic food is questionable.	0.813
31. Considering all aspects, the price for the organic food is justified.	0.825
32. I feel well-informed about this restaurant's pricing policies and any changes to its rates.	0.808
Factor 3: Price Expectation (pen)	
33. This is the price I would expect to pay for an organic meal...	0.862
34. The condition of this restaurant justifies the price I paid.	0.785
35. This price aligns with my expectations for the services provided...	0.838
36. I believe the price I paid is reasonable for the amenities and services...	0.804
Factor 4: Price Information (pi)	
37. Information about the organic food rate influences my decision to choose this restaurant.	0.810
38. My knowledge of this restaurant's organic food rating comes from advertisements.	0.801
39. I compare prices among different restaurants... before making a decision.	0.828
40. The organic food rate is a rip-off.	0.776
Perceived Value (PV)	
KMO = 0.941; Bartlett's Test: χ^2 = 11,024.65, $p < 0.001$; Cumulative Variance Explained = 74.1%	
Factor 1: Functional Value (fv)	
41. The service at this restaurant is very reliable.	0.852
42. The service at this restaurant performs well.	0.841
43. The service at this restaurant meets an acceptable standard of quality.	0.849
44. The service at this restaurant is consistently performed.	0.857

Table A1. *Cont.*

Construct and Items	Factor Loading
Factor 2: Hedonic Value (hv)	
45. The service at this restaurant is enjoyable.	0.884
46. The service at this restaurant encourages me to return.	0.843
47. The service at this restaurant makes me feel relaxed.	0.822
48. The service at this restaurant makes me feel good.	0.868
Factor 3: Economic Value (EV)	
49. The service at this restaurant is fairly priced.	0.842
50. Compared to other equivalent services, this restaurant is economical.	0.863
51. The service at this restaurant offers good value for money.	0.820
52. I believe the pricing… reflects the quality and benefits received.	0.829
Factor 4: Social Value (sv)	
53. The service at this restaurant would earn me social recognition. (ethical).	0.850
54. The service at this restaurant helps me leave a positive impression on others. (ethical).	0.852
55. The service at this restaurant makes me feel accepted by society. (ethical).	0.846
56. The service at this restaurant connects me to a modern and progressive community. (ethical).	0.861
Customer Satisfaction (CS)	
KMO = 0.955; Bartlett's Test: χ^2 = 12,983.22, $p < 0.001$; Cumulative Variance Explained = 73.9%	
Factor 1: Service Quality (sq)	
57. The service staff is courteous and professional.	0.880
58. I feel valued by the attention provided by the service staff.	0.861
59. The quality of service is consistent with each visit.	0.837
60. The quality of service encourages me to return to this restaurant.	0.844
Factor 2: Timely Service (ts)	
61. The service staff delivers food promptly.	0.881
62. I am satisfied with the wait time before being served.	0.825
63. This restaurant provides timely service during peak hours.	0.860
64. The staff responds quickly to additional requests.	0.853
Factor 3: Ambience & Surroundings (as)	
65. The atmosphere… enhances my overall dining experience.	0.828
66. I am satisfied with the cleanliness of the restaurant's environment.	0.816
67. The decor and lighting… create a comfortable atmosphere.	0.830
68. The background music and temperature contribute positively…	0.835
Factor 4: Perceived Quality (pq)	
69. Overall evaluation of the quality of the experience.	0.826
70. Evaluation of the customisation experience…	
71. Evaluation of the reliability of the experience.	0.814
72. Evaluation of the service's responsiveness…	0.831
Factor 5: Hotel Image (hi)	
73. This restaurant can be trusted in its claims and actions.	0.828
74. This restaurant is stable and well-established.	0.834
75. This restaurant contributes positively to society.	0.879
76. This restaurant is attentive to its customers.	0.858

Table A1. *Cont.*

Construct and Items	Factor Loading
Customer Loyalty (CL)	
KMO = 0.923; Bartlett's Test: χ^2 = 10,115.89, $p < 0.001$; Cumulative Variance Explained = 71.5%	
Factor 1: Customer Trust (ct)	
77. Many people I know use the services of this restaurant.	0.872
78. My behaviour is influenced by those who also use this restaurant.	0.821
79. People whose opinions I value also use this restaurant.	0.876
80. I trust the service of this restaurant because it is recommended by people I respect.	0.833
Factor 2: Customer Commitment (cc)	
81. I will continue to pay for the services offered by this restaurant.	0.815
82. In the future, I will be fully committed to its services.	0.851
83. I will not pay for this restaurant's services in the future. (Reversed)	0.828
84. I feel a sense of loyalty towards this restaurant and its services.	0.840
Factor 3: Customer Value (CV)	
85. I would choose this restaurant's services because they are worth the cost.	0.881
86. The services offered by this restaurant are worthwhile.	0.832
87. The services at this restaurant provide good value for money.	0.845
88. The benefits of this restaurant's services outweigh the costs I incur.	0.842
Factor 4: Social Media Engagement (SE)	
89. Engaging in conversations on the WeChat Moments of this restaurant.	0.848
90. Sharing posts from this restaurant on my own WeChat Moments.	0.837
91. Recommending this restaurant's WeChat Moments to my contacts.	0.841
92. Uploading product-related videos, audio, pictures, or images.	0.817
Note. Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalisation.	

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